

- Sound measurement is logarithmic, for every 10db of increase the sound is amplified by a factor of 10. 20db of increase equals 100 times louder, 30db equals 1000 times, etc. A good rule of thumb is that for every 3db of increase the sound level is doubled.
- Typical hunting ammo is supersonic, the bullet reaches the target before the sound of the shot. Supersonic projectiles break the sound barrier and create a sonic boom. Even with a sound suppressor attached the minimum sound level of a firearm shooting a supersonic projectile will be 110db.
- Modern centerfire suppressor designs reduce the sound level of a firearm by about 35db. Even with this level of sound attenuation a typical hunting rifle will still have a higher sound level than a train horn.

The following sound levels are from:

The Noise Navigator®: a database of over 1700 noise sources.

Developed by Elliott Berger, MS, Senior Scientist with 3M Occupational Health and Environmental Safety Division

Horn, locomotive 110

Horn, auto 100

Police siren, at front of car 114

Air chisel on auto body metal 112

Wrench, impact, fitting lug nuts 100

Sonic boom 110

Rifle, 7-mm Magnum 160

Rifle, .22 L.R., rimfire 134

Rifle, .30-06 159

Apollo lift off (close) 188 (loudest sound in the list)

The loudest sound possible in air is 194 decibels

- How dangerous is gunfire to my hearing?

The sound of gunfire is the most hazardous non-occupational noise to which Americans are exposed. A single shot experienced by an unprotected ear can lead to immediate and permanent hearing loss, often accompanied by tinnitus. Just because you might have shot without protection in the past, and without apparent hearing loss, does not mean you might not get hurt the next time. Exposure to peaks sound pressures can be likened to dropping a glass bottle. Sometimes it breaks and sometimes it doesn't; you can't predict the outcome.

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